



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEX SIR 16.0062X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 4	Issue 3 (2020-11-02)
Date of Issue:	2022-02-07		Issue 2 (2017-05-25)
Applicant:	Eaton Electric Ltd Great Marlings Butterfield Luton LU2 8DL United Kingdom		Issue 1 (2016-12-14)
Equipment:	MTL Gecma TC COM Module		Issue 0 (2016-08-23)
Optional accessory:			
Type of Protection:	Increased Safety, Encapsulation, Intrinsically Safe and Optical Isolation		
Marking:	Ex eb mb[ib] op is IIC T4 Gb Ta = -30°C to +60°C		

Approved for issue on behalf of the IECEx
Certification Body:

N Jones

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom





IECEX Certificate of Conformity

Certificate No.: **IECEX SIR 16.0062X**

Page 2 of 4

Date of issue: 2022-02-07

Issue No: 4

Manufacturer: **Eaton Electric Ltd**
Great Marlings
Butterfield
Luton LU2 8DL
United Kingdom

Manufacturing locations: **S.C. Cooper Industries Romania**
S.R.L
Zona Industriala Vest, Str. III, Nr. 12
310510 Arad
Romania

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2011](#) Explosive atmospheres - Part 0: General requirements
Edition:6.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-18:2014](#) Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"
Edition:4.0

[IEC 60079-28:2015](#) Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

[IEC 60079-7:2015](#) Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
Edition:5.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[GB/SIR/ExTR16.0162/00](#)
[GB/SIR/ExTR20.0190/00](#)

[GB/SIR/ExTR16.0308/00](#)
[GB/SIR/ExTR22.0001/00](#)

[GB/SIR/ExTR17.0095/00](#)

Quality Assessment Reports:

[DE/BVS/QAR11.0006/11](#)

[GB/BAS/QAR07.0017/09](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX SIR 16.0062X**

Page 3 of 4

Date of issue: 2022-02-07

Issue No: 4

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The MTL Gecma TC COM Module receives its power from a Gecma PSU Module (IECEX SIR 14.0030X,) and also connects to a Gecma Display Module (IECEX SIR 14.0032X,). The MTL Gecma TC COM Module has intrinsically safe external connections for suitably-certified accessories, e.g. keyboard, pointing device, USB, and RS232 data ports in addition to Ex 'e' external data connections (USB, Ethernet, RS232). An intrinsically safe video output connection is provided. An optional fibre-optic Ethernet connection may be provided.

The MTL Gecma TC COM Module must be housed in an enclosure that provides protection against damage to the cables. The MTL Gecma TC COM Module contains four printed circuit boards: Motherboard, SBC board, Main breakout board and Ex 'e' breakout board. The boards are encapsulated within an aluminium alloy enclosure. The intrinsically safe external terminals on the motherboard and the area for external connections on the Ex 'e' board are not encapsulated.

Refer to the Annexe for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The user/installer shall comply with the following:

1. The MTL Gecma TC COM Module shall only be powered from a Gecma PSU Module, IECEX SIR 14.0030X.
2. The LVDS connector shall only be connected to a Gecma Display Module, IECEX SIR 14.0032X.
3. The MTL Gecma TC COM Module shall be housed in an enclosure that provides protection against damage to the cables.
4. The enclosure is manufactured from aluminium alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation.
5. The intrinsically safe circuit is not isolated from the enclosure; this shall be considered during installation.



IECEX Certificate of Conformity

Certificate No.: **IECEX SIR 16.0062X**

Page 4 of 4

Date of issue: 2022-02-07

Issue No: 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1 – this Issue introduced the following changes:

1. Change the entity name from Measurement Technology Ltd. to Eaton Electric Ltd. The address is unchanged.
2. Modify the Ex 'e' Board:
 - Change axial fuses to radial.
 - Add a new connector to the USB circuits.
 - Change fuses from 50mA to 80mA.
 - Change capacitance values and voltage ratings.
 - Minor revisions to drawing notes.
3. Modify the main breakout board schematic to mark additional components as not inserted.
4. The inclusion of additional Manufacturing locations in Germany and the USA were recognised.

Issue 2 – this Issue introduced the following changes:

1. Modifications to the motherboard.
2. The values of I_o , P_o and L_o for the external keyboard port are amended. The new values are shown below and replace those in the 'Intrinsically safe motherboard external connections' table shown in the Annex:

Parameter	External keyboard port
I_o	248 mA
P_o	567 mW
L_o	578 μ H

3. Permit alternative solid state storage drives.

Issue 3 – this Issue introduced the following change:

1. The manufacturing location, Azonix Corporation, 101 Billerica Ave, Bldg 4, North Billerica, Massachusetts 01862, United States of America, was removed.

Issue 4 – this Issue introduced the following change:

1. The following manufacturing location was recognised: S.C. Cooper Industries Romania S.R.L, Zona Industrială Vest, Str. III Nr. 12, 310510 Arad, Romania.
2. Administrative changes to certification label drawing.
3. The following Additional manufacturing location was removed from the certificate: Gecma Components GmbH, Heinrich-Hertz-Strasse 12, 50170, Kerpen, Germany.

Annex:

[IECEX SIR 16.0062X Iss 4 Annex.pdf](#)

Annexe to: IECEx SIR 16.0062X Issue 4

Applicant: Eaton Electric Ltd.

Apparatus: MTL Gecma TC COM Module



Intrinsically safe motherboard external connections

	RS232 port	USB port 1	USB port 2	USB port 3	USB port 4	External keyboard port	External pointing device port	LVDS (to Display Module)
Ui	12 V	0	0	0	0	0	0	4.935 V
Ii	-	-	-	-	-	-	-	3.275 A
Pi	-	-	-	-	-	-	-	3.927 W
Ci	0	11 nF	11 nF	11 nF	11 nF	0	0	0
Li	0	0	0	0	0	0	0	0
Uo	6.015 V	5.355 V	5.355 V	5.355 V	5.355 V	5.355 V	5.355 V	4.935 V
Io	26 mA	972 mA	972 mA	972 mA	972 mA	267 mA	126 mA	3.266 A
Po	39 mW	1.676 W	1.676 W	1.676 W	1.676 W	613 mW	264 mW	3.917 W
Co	37 μ F	64.9 μ F	64.9 μ F	64.9 μ F	64.9 μ F	65 μ F	65 μ F	100 μ F
Lo	52 mH	37 μ H	37 μ H	37 μ H	37 μ H	498 μ H	2239 μ H	3.3 μ H

Note 1: All outputs in the above table shall be assessed as separate intrinsically safe circuits.

Note 2: The quoted values of Co and Lo apply to distributed capacitance and inductance, as in cable. If non-distributed capacitance and inductance is present, the values shall be reduced in accordance with the relevant code of practice, e.g. IEC 60079-14.

Ex 'e' breakout board external connections

USB A, USB B, Ethernet A, Ethernet B, RS232: 250V maximum.

Conditions of Manufacture

- i. In accordance with IEC 60079-18:2014 clause 9.1, each manufactured item shall be subjected to a visual inspection. No damage shall be evident, such as cracks in the compound, exposure of the encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion or softening.